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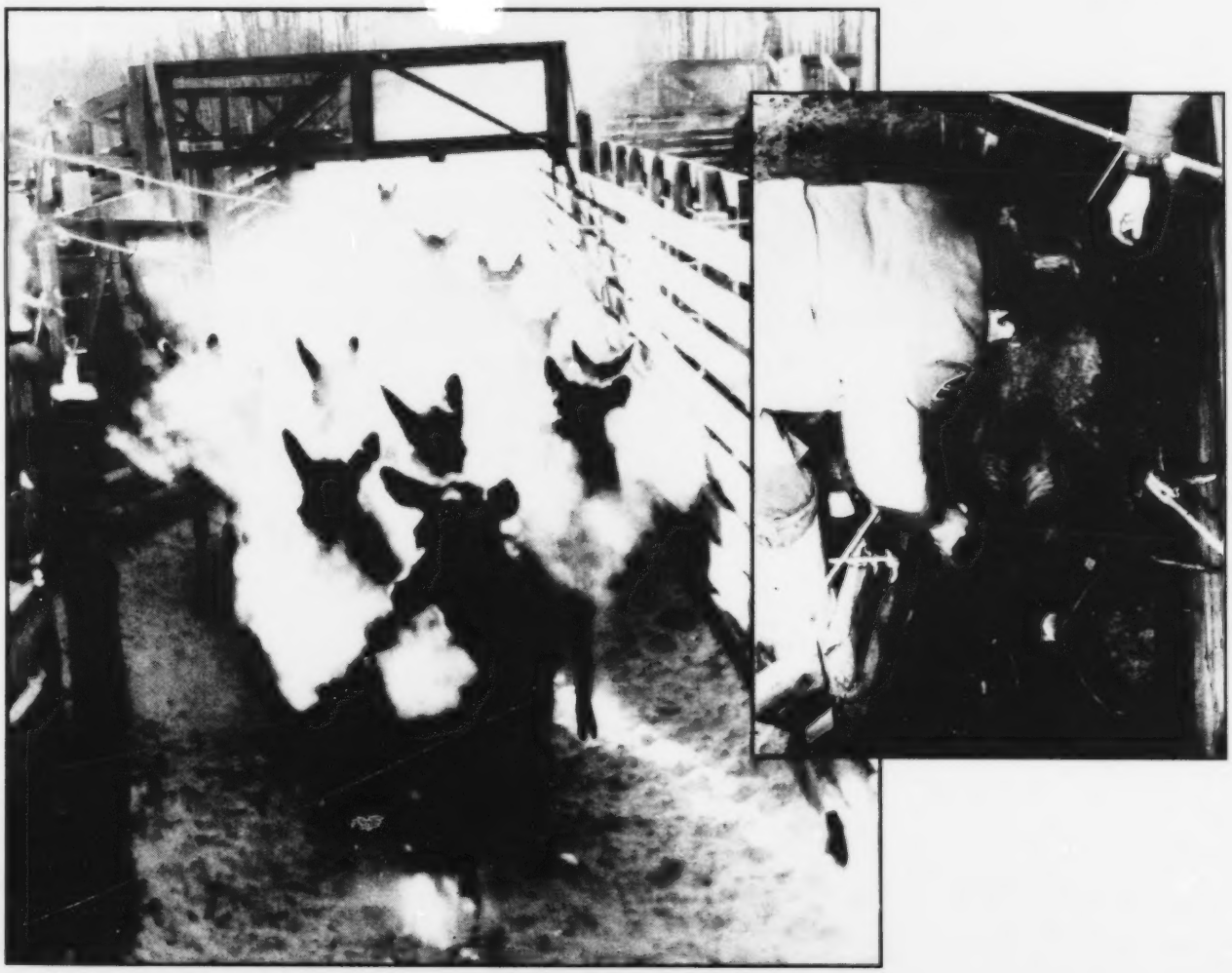
Status of the 1989 Elk Transplant Program in Saskatchewan

Wildlife Technical Report 89-2



STATUS OF THE

1989 ELK TRANSPLANT PROGRAM

IN

SASKATCHEWAN

A Co-operative Project

by

THE ROCKY MOUNTAIN ELK FOUNDATION
Missoula, Montana

FOUNDATION FOR NORTH AMERICAN BIG GAME
Calgary, Alberta

CANADIAN PARKS SERVICE
Elk Island National Park, Alberta

SASKATCHEWAN PARKS, RECREATION AND CULTURE
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ABSTRACT

During the 1988-89 winter, 110 elk were relocated from Elk Island National Park, Alberta to forest habitat near Nipawin Provincial Park (41 animals) and Helene Lake (69 animals) in northern Saskatchewan. The elk were transported to Saskatchewan by truck and kept in a holding facility at the release sites for 12 to 19 days to acclimatize the animals to their new surroundings. Aerial reconnaissance indicated that the elk split into small groups following their release but remained in the general vicinity of the release sites. The 1989 transplant was part of a long-term program, designed to re-establish elk populations in unused habitat and supplement small existing elk herds to achieve more rapid population growth for sport hunting purposes.

ACKNOWLEDGEMENTS

The Rocky Mountain Elk Foundation and the Foundation for North American Big Game provided major funding for the 1989 transplant program. These non-profit wildlife organizations are dedicated to the conservation and management of the elk resource throughout North America. Their interest in elk population management in Saskatchewan, along with their financial support, is sincerely appreciated.

A special acknowledgement is extended to the Canadian Parks Service (Environment Canada) for providing the animals for the transplant program. Mr. Norm Cool and other Elk Island National Park staff spent considerable time and effort to trap and process the animals for shipment to Saskatchewan.

Messrs Bob Oliver, Larry Cardinal, Carl Frohaug, Randy Sequin and other Saskatchewan Parks, Recreation and Culture staff from the Prince Albert and Meadow Lake Regional Offices ensured the successful completion of the transplant effort. These individuals participated in the processing, transport, release and monitoring of the animals and co-ordinated construction of the holding pens.

A special thanks to members of the Glaslyn and Spiritwood wildlife federations who provided volunteer labour and support for the transplant program. The photographs for the cover of this report were supplied by Robbie Robinson. Dave Phillips provided helpful suggestions and reviewed the manuscript.

TABLE OF CONTENTS

	Page
Abstract	i
Acknowledgments	i
Table of Contents	ii
1. Introduction	1
2. Capture Methods	2
3. Animal Transport	5
4. Release Procedures	6
5. Monitoring Program	8
6. Program Costs	10
7. Conclusions	10
8. References	12
Appendices	13

LIST OF FIGURES AND APPENDICES

Figure 1. Location of the 1989 elk release sites in Saskatchewan 3

Appendix 1. Statement of expenditures for the 1989 elk transplant program 13

1. INTRODUCTION

Elk (Cervus elaphus) transplant or relocation programs have been used by many western North American wildlife agencies to re-establish elk in historical range, increase populations in under-utilized habitat or restock populations depleted by hunting. These programs have assisted wildlife managers to meet sport hunting and viewing recreation demand and are recognized as an important game management technique.

In Saskatchewan, transplant programs were initiated in 1937 when elk, trapped in Camp Wainwright, Alberta (formerly Buffalo National Park) were transported to the Cypress Hills, located in the southwestern part of the province, to restore populations depleted by hunting. In 1952 and 1953, elk from the Fort a la Corne forest in central Saskatchewan were again relocated to the Cypress Hills to supplement low populations and to the Flotten Lake-Beauval area in northwestern Saskatchewan to encourage population expansion into unused habitat.

In 1982, surplus elk trapped at Elk Island National Park (EINP), Alberta were transported to the province as part of a planned population reduction at EINP and to assist recovery of a small existing elk herd in Saskatchewan. The 32 elk were released into aspen parkland habitat in the Thickwood Hills of northwestern Saskatchewan to complement a small herd of 35 animals already in the area. In 1985, elk from EINP were again transported to Saskatchewan for release in forest habitat near Nipawin Provincial Park (39 elk), northeast of Prince Albert and the Bronson Provincial Forest (33 elk), southwest of Loon Lake. Both release programs successfully restocked elk into forest habitat which had historically supported high elk densities.

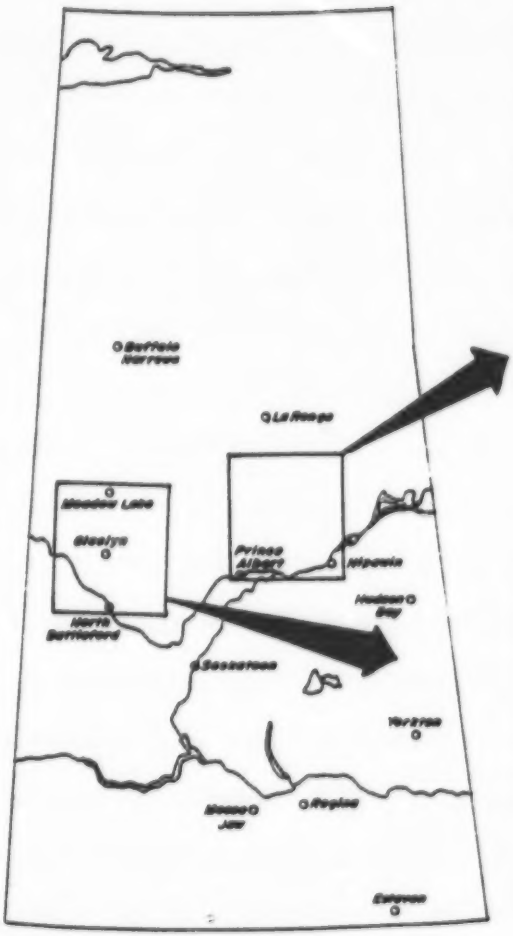
These transplant programs assisted population recovery and some herds have increased sufficiently to support limited sport hunting pressure. Special hunting seasons, on a either-sex quota basis, are available to Saskatchewan residents on the Cypress and Thickwood Hills (every 2nd year) elk populations. However, sport hunting demand continues to escalate causing wildlife managers to closely regulate recreational use and harvest of the elk resource. Saskatchewan Parks, Recreation and Culture estimates that sport hunting demand alone is 10 times greater than the harvestable supply of elk and a special draw system is necessary to allocate hunting opportunity.

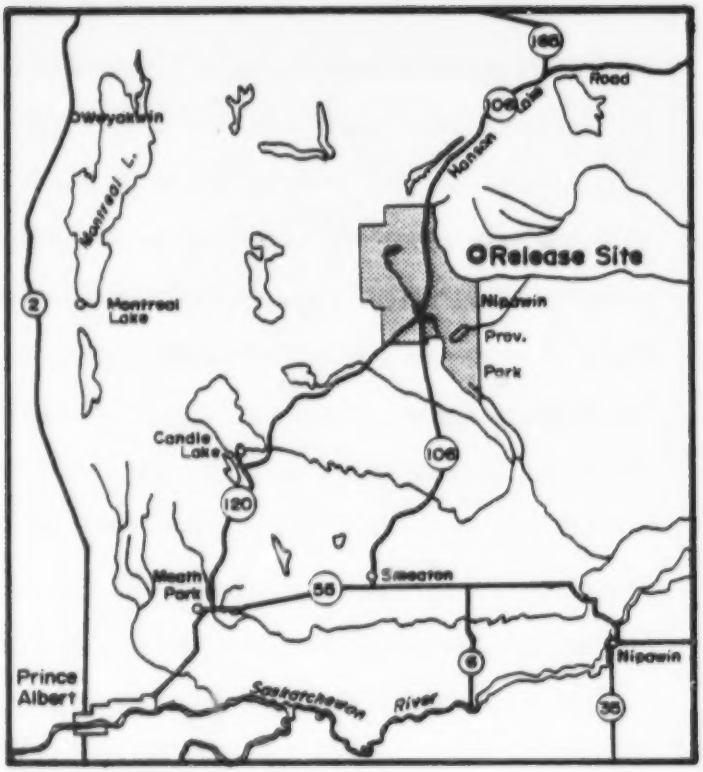
In a continuing effort to meet this demand, Saskatchewan Parks, Recreation and Culture (SPRC), with the co-operation of the Canadian Parks Service (CPS) and financial assistance from the Rocky Mountain Elk Foundation (RMEF) and the Foundation for North America Big Game (FNABG), relocated 110 elk from EINP to two forest locations in Saskatchewan during the 1988-89 winter (Fig. 1). This report documents the procedures used during the transplant program and evaluates the success of the project.

2. CAPTURE METHODS

EINP, located 35 km west of Edmonton, Alberta encompasses 260 km^2 of forest habitat and supports approximately 1500 elk. The CPS removes surplus animals in an effort to control population growth and assist other wildlife agencies in re-establishing elk populations in their jurisdictions.

Between December, 1988 and February, 1989, elk groups of various size were baited with irrigated alfalfa into a large fenced holding area in ENIP. A trip-wire





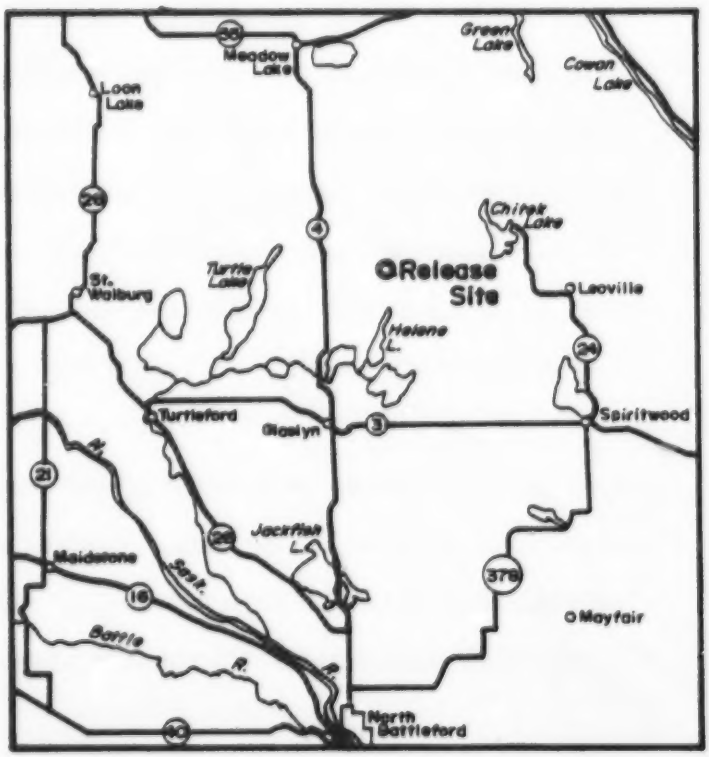


Figure 1. Location of the 1989 elk release sites in Saskatchewan.

at the bait site automatically closed a gate that prevented the elk from escaping from the holding pen. EINP staff then herded the animals into a smaller holding area supplied with irrigated alfalfa for feed. The animals were left undisturbed until sufficient numbers had been trapped to process for shipment to the designated release location. Because trapping success requires adequate snow and cold temperatures to attract animals to the bait sites and cow:calf groups are preferred for transplant programs, animals were sometimes held for more than a month before enough were available for processing.

When sufficient animals were accumulated for shipment, the elk were herded into a wooden processing facility, consisting of a series of gated runs that animals could be moved through and directed into a squeeze chute for handling purposes. Antlers were removed from mature bulls to prevent injury and facilitate handling. The animals were then inspected by a provincial animal health veterinarian from Edmonton, tested for brucellosis and tuberculosis and injected with ivermectin (Ivomec) to control internal parasites. SPRC staff affixed yellow "alflex" numbered eartags to each animal and wide blue collars with yellow identification symbols were attached to 14 adult females (7 females for each release site). During the 4 days required for processing and disease testing each shipment, the elk were kept in a small holding area surrounded with page wire fencing covered with black plastic to minimize disturbance. On the morning following processing, the animals were loaded into trucks for transport to the release location.

One yearling female, processed in the first shipment of elk destined for the Nipawin Provincial Park site, tested positive for tuberculosis and was subsequently returned to the holding facility for necropsy. However, the supervising veterinarian recommended shipment of the rest of the herd because

there has been no recent history of tuberculosis in the EINP elk population and the test occasionally produces an erroneous positive reaction.

The recently documented presence of the American liver fluke (**Fascioloides magna**) in several elk necropsied from EINP was of initial concern to wildlife managers because of possible infection of native moose populations at the release sites (N. Cool, EINP Warden, pers. comm.) The parasite usually causes no clinical disease in elk but there may be considerable injury and fibrosis of the liver of infected moose. However, the liver fluke has been reported in native elk and moose populations in forest areas in Saskatchewan (Wobeser et al. 1985) and there is no evidence that introduction of the parasite with transplanted elk constitutes a problem for wild ungulates or domestic livestock at this time.

3. ANIMAL TRANSPORT

On January 27, 1989, 41 elk (6 adult males, 7 adult females, 12 yearling males, 2 yearling females, 6 male calves and 8 female calves) were transported from ElNP to a holding facility near the northeastern boundary of Nipawin Provincial Park, northeast of Prince Albert in central Saskatchewan (Fig. 1). Another 70 elk (40 adult females, 11 yearling males, 3 yearling females and 16 calves) were transported on March 4, 1989 to a holding facility near Helene Lake, northeast of Glasyln in the Divide Provincial Forest in northwestern Saskatchewan (Fig. 1). However, shortly after unloading, one adult cow died in the holding pen from injuries sustained during processing or transport.

Most of the adult cows appeared to be pregnant and 1989 calf recruitment is expected to contribute to herd growth. There was initially concern that the lack

of mature bulls in the Helene Lake shipment may impact reproduction but with some of the animals being yearling bulls and the documented presence of mature native bulls near the release area, problems are not anticipated.

The animals were transported from EINP to the release sites in one day using a double-compartment cattle liner and enclosed 5-ton truck supplied by Place Carrington Transport from Viking, Alberta. Approximate travel time to the Nipawin and Helene Lake release sites were 8 and 4 hours, respectively. The floor of each truck was covered with hay to minimize injury to the animals and as long as the trucks kept moving, the animals preferred to lie down and remained calm.

An export permit was obtained from Alberta Energy and Natural Resources, Fish and Wildlife Division, Edmonton prior to both shipments.

4. RELEASE PROCEDURES

The elk were unloaded into large log construction holding pens at both release sites. Elk released directly from the back of a truck into unfamiliar habitat tend to leave the release site quickly and move long distances before settling down. The corrals were intended to calm the animals after shipment and acclimatize them to their new surroundings. Unloading occurred rapidly at each site and with the exception of some scrapes and cuts, most elk appeared to be in good physical condition.

The Nipawin Provincial Park holding pen consisted of a 15 m x 21 m oval-shaped facility constructed by SPRC staff and the inmates of the White Gull Correctional

Centre in a mature jackpine (Pinus banksiana) and trembling aspen (Populus tremuloides) forest stand at the base of the Narrow Hills Esker (Froc 1985). Barriers were constructed in the enclosure to discourage excited animals from running or attempting to jump over the 3 m high walls. A plywood screen was installed inside the pen to provide a visual barrier between the elk and human activity around the pen.

The Helene Lake holding pen was larger than the Nipawin Provincial Park corral but constructed in a similar fashion in a mature spruce (Picea glauca) and trembling aspen forest stand at the north end of the lake (C. Frohaug, SPRC, Conservation Officer, pers. comm.). Barriers were not constructed in the enclosure but the walls exceeded 3 m in height and the animals did not attempt escape. The corrals were constructed with volunteer labour from the Glaslyn and Spiritwood branches of the Saskatchewan Wildlife Federation.

Water was supplied at both sites using a propane-heated water trough. Loose snow inside the pen, although initially consumed by the animals, tended to become compacted in a short period of time. The animals were feed second cut alfalfa from self-feeding mangers stocked on a daily basis.

The elk at the Nipawin site were released on February 15, 1989 after a confinement period of 19 days. The animals were scheduled to be released within 10 days but analysis of fecal samples to test for the presence of liver flukes delayed the release. The fecal sample analysis, conducted by the Western College of Veterinary Medicine in Saskatoon, did not detect the presence of any liver fluke larva.

The Helene Lake elk were released from the holding facility in 4 groups beginning on March 9 (10 released), March 13 (6 released), March 14 (12 released) and March 15, 1989 after a confinement period of up to 12 days. The gate was left open during the night of March 15 and by the following morning all of the animals had dispersed from the holding corrals.

The elk were released from the holding pens late in the day or during the night and with a minimum of disturbance to encourage the animals to remain in the vicinity of the release site. Alfalfa was provided outside the holding pens and on nearby cutlines and trails to serve as alternate feed until the animals became accustomed to their new habitat.

5. MONITORING PROGRAM

Aerial reconnaissance of the Nipawin Provincial Park and Helene Lake sites was carried out with a fixed-winged aircraft to assess elk distribution and herd composition following the release. Tracks, indicative of elk activity and dispersal from the release site, were monitored until the animals were observed. The color coded collars and yellow eartags confirmed that animals observed from the air were from the transplant program.

The Nipawin Provincial Park elk appeared to split into 3 groups and travelled from 5 to 22 km north of the holding pen shortly after being released. A group of 20 of the animals were observed 22 km north of the release site on February 17, two days after the release. On March 1, only three eartagged bulls remained in this location but on March 7, a local trapper reported approximately 15 elk, believed to be part of this herd, east of the release site.

Another group of 23 elk, including three adult females with blue collars, was observed on March 1, 5 km north of the release site. One animal in the group also had a yellow collar indicating that the animals were mixing with elk released at the same site in 1985. Tracks from another group of elk were followed by aircraft to Upper Fishing Lake, 10 km northwest from the release site, but no animals were observed in the dense forest cover and observers could not confirm that the animals were from the 1989 release.

On March 31, an adult cow (yellow eartag #7) was found dead from unknown causes near the release site. A male calf from the 1989 release was also found in a creek flowing into Upper Fishing Lake, apparently having drowned after breaking through the ice.

The majority of the Helene Lake elk were located 7 km north of the release site in a large cut-over on March 16, one day after the release was completed. By March 19, the herd had split into four groups, with 18 animals near the corral, six animals 12 km to the southeast, another six animals the same distance to the northeast and the remainder situated about 16 km north of the release site. On March 24, some elk and track activity were sighted along the west shore of Helene Lake but observers were unable to confirm that the animals were from the 1989 release. Towards the end of March, a few elk from the transplant program were observed by people travelling in vehicles along the Burness Lake pulp road and Highway No. 4, located northwest of the release site.

Although aerial monitoring efforts were discontinued at the end of March, local SPRC staff continue to receive occasional reports of elk, believed to originate from the transplant program, within a 25 km radius of the release sites. Some

of the elk remain unaccounted, but in the dense forest cover, characteristic of these areas, it is difficult to observe animals, even from the air.

6. PROGRAM COST

The program cost $8,511.95, excluding wages, vehicle mileage and incidental expenses required to process the elk at EINP and provide feed and monitor their activities at the release site (Appendix 1). This expenditure amounted to $77/elk. Alfalfa, animal transport, aircraft charter costs and miscellaneous expenses represented 43%, 28%, 22% and 7% of program cost, respectively. EINP supplied the elk at no cost to SPRC in accordance with their policy regarding the disposal of surplus animals.

The Rocky Mountain Elk Foundation and the Foundation for North American Big Game contributed $6107.38 and $2325.37 towards the transplant program. EINP, SPRC and local branches of the Saskatchewan Wildlife Federation contributed manpower, vehicles and incidental materials.

7. CONCLUSIONS

The transplant program was successfully completed with minimal trap or handling-related mortality. The animals appeared to adapt quickly to their new habitat and based on aerial survey information and field reports, now reside within a maximum 25 km radius of the release sites. It is anticipated that the animals will remain in the vicinity of the release areas and contribute to the establishment of a resident elk herd at the Helene Lake site and recovery of the existing herd at the Nipawin Provincial Park site. The transplant program is

concluded to be a cost efficient and feasible method of achieving a rapid increase in elk densities for sport hunting purposes.

The Helene Lake site in the Divide Forest, the Loon Lake site in the Bronson Provincial Forest and the Clarke and Candle Lake areas in central Saskatchewan should be considered for future transplant programs. The Helene Lake area can support additional elk and as populations become better established, sport hunting may be incorporated into the long-term management strategy for this elk herd. The Clarke and Candle Lake areas have historically supported high elk densities and with current populations severely depleted, these areas could benefit from a transplant effort. The 1989 release was the second transplant in the Nipawin Provincial Park site and it is believed that sufficient animals exist in the area to ensure continued population growth.

The herd composition of animals for transplant programs should consist of predominately cows and calves, with only a small number of bulls, to ensure optimum recruitment and rapid population growth. Marking some adult cows with color coded collars and radio transmitters would facilitate relocation as eartags tear out easily and are difficult to see from an aircraft. Radio transmitters were placed on a small number of adult cows during the 1982 Thickwood Hills and 1985 Nipawin Provincial Park releases. Although expensive, they were an effective tool for tracking elk dispersal from the release sites.

Promoting the recovery and growth of provincial elk populations to meet sport hunting demand remains a high priority for SPRC. A bulls-only season is being implemented in the Bronson Provincial Forest in 1989 to take advantage of growing

elk populations that were supplemented by the 1985 release program. It is anticipated that transplanted elk populations at the Nipawin Provincial Park site will also be subjected to some bulls-only hunting pressure in 1990 with the removal of a portion of the area from game preserve status. The department's current philosophy is that once transplanted populations reach acceptable levels, hunting seasons can be implemented to harvest the surplus.

The transplant program has also provided wildlife managers with an opportunity to inform and educate the public about elk management in Saskatchewan. The local media have provided major television, radio and magazine coverage since the 1982 release and these efforts have attracted considerable public interest and support for the program. Various local branches of the Saskatchewan Wildlife Federation have also participated in the transplant program and used the projects to generate interest in wildlife management among their membership.

8. REFERENCES

Froc, R.A. 1985. The Cub Hills elk release, January 1985. Sask. Parks, Rec. and Cult., Wildl. Br., Wildl. Pop. Mgt. Rpt.. 10 pp. (in press)

Wobeser, G., A.A Gajadhar, and H.M. Hunt. 1985. Fascicloides magna: Occurrence in Saskatchewan and distribution in Canada. Can. Vet. J. 26:241-244.

Appendix 1: Statement of expenditures for the 1989 elk transplant program

Date Purchased day/mo/yr	Agency	Product/Location	Supplier	$$ Cost
01/09/88	RMEF	Veterinary supplies - EINP	Ardrossan Veterinary Clinic	325.00
01/09/88	RMEF	Veterinary supplies - EINP	Ardrossan Veterinary Clinic	18.00
24/10/88	FNABG	Alfalfa hay - EINP	Loris Maschmeyer	2325.37
04/01/89	RMEF	Eartags and applicator - EINP	Animal Health Supplies	157.18
12/01/89	RMEF	Alfalfa hay -Helene Lake	Darrel Siklenka	250.00
26/01/89	SPRC	Film - EINP	Sask Property Management	49.20
27/01/89	RMER	Alfalfa hay - Nipawin Prov. Park	Rick Willness	460.00
28/01/89	RMEF	Trucking - Nipawin Prov. Park	Place Carrington Transport	1224.30
08/02/89	RMEF	Alfalfa hay Nipawin Prov. Park	Rick Willness	380.00
14/02/89	SPRC	Repair holding pen -Nipawin Park	Caribou Creek Lodge	30.00
16/02/89	RMEF	Aircraft monitoring - Nipawin Park	Athabaska Airways Limited	630.00
27/02/89	RMEF	Alfalfa hay - Helene Lake	Darrel Siklenka	180.00
01/03/89	RMEF	Aircraft monitoring - Helene Lake	Athabaska Airways Limited	585.00
04/03/89	RMEF	Trucking - Helene Lake	Place Carrington Transport	1122.00
23/03/89	RMEF	Alfalfa hay - Nipawin Prov. Park	Rick Willness	112.00
24/03/89	RMEF	Aircraft monitoring - Helene Lake	Athabaska Airways Limited	423.90
25/03/89	RMEF	Aircraft monitoring - Helene Lake	Henry Janzen	240.00
			Total expenditure =	8511.95

Agencies:

RMEF = Rocky Mountain Elk Foundation
FNABG = Foundation for North American Big Game
SPRC = Saskatchewan Parks, Recreation and Culture
EINP = Elk Island National Park